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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,753	12/09/2003	Dennis R. Morrison	MSC-23277-1	1973
24957 7590 01/17/2007 NASA JOHNSON SPACE CENTER MAIL CODE AL 2101 NASA PARKWAY HOUSTON, TX 77058			EXAMINER NGUYEN, TU T	
			ART UNIT	PAPER NUMBER
			2877	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/17/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/734,753

Applicant(s)

MORRISON, DENNIS R.

Examiner

Tu T. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-9 and 18-28 is/are allowed.
- 6) ☒ Claim(s) 10-15 and 17 is/are rejected.
- 7) ☒ Claim(s) 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1-28 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10, 12-15, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cerni et al (2004/0080747).

With respect to claim 10, Cerni discloses a chamber 113 (fig 4) configured to induce a laminar flow of fluid (paragraph [0037]) comprising one or more light sources 412 (fig 4) configured to provide incident light through the chamber; an imaging system 410 (fig 4) (paragraph [0039], lines 11-20) configured to acquire images of the fluid moving at laminar flow within the chamber; and a processor 411 (fig 4) for identifying and characterizing microparticles within the fluid; and determining a quantity of the microparticles (paragraph [0002]).

Cerni does not explicitly disclose opposing optical viewing ports. However, it would have been obvious to modify Cerni with the claimed viewing ports to view the fluid inside the chamber. Further, Cerni does not explicitly disclose a storage medium for

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storing a program as claimed. Since Cerni discloses using a signal processor 411 (fig 4) for counting the particles, the claimed storage medium would have been obvious.

With respect to claims 12-15, Cerni discloses the claimed invention except for the program instruction to measure different characteristics of the sample. However, it would have been obvious to modify Cerni with different program instructions as claimed to measure different characteristics of the sample for different intended uses.

With respect to claim 17, the prior arts disclose the claimed invention except for identifying the particle by comparing the measure light with spectral characteristics of known particles. However, the claimed comparing would have been known. It would have been obvious to modify the prior arts with the known comparing method as claimed to identify the particles easier.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cerni et al (2004/0080747) in view of Ito (5,162,863).

With respect to claim 11, Cerni discloses the claimed invention except for bandpass filters. Ito discloses using bandpass filter for passing only wanted wavelengths (column 3, lines 55-65). It would have been obvious to modify Cerni with a plurality of Ito's bandpass filters to detect all the desired wavelengths.

Allowable Subject Matter

Claims 1-9,18-28 are allowed.

As per claims 1,25, the prior arts of record, taken alone or in combination, fail to disclose or render obvious a chamber configured to induce a laminar flow of fluid, a photometer configured to measure the intensity of light transmitted through individual microparticles; and an imaging system configured to acquire images of the flowing fluid within the chamber, in combination with the rest of limitations in the claim.

As per claim 18, the prior arts of record, taken alone or in combination, fail to disclose or render obvious the steps of flowing a fluid comprising microparticles in laminar motion through a chamber; measuring the intensities of the light transmitted through the fluid; imaging the fluid a plurality of times as the microparticles flow through the chamber; and comparing at least some of the intensities of light between different images of the fluid to detect and characterize the microparticles, in combination with the rest of limitations in the claim.

Claim 16 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As per claim 16, the prior arts of record, taken alone or in combination, fail to disclose or render obvious a program instructions for comparing measured intensities of

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light transmitted through the microparticles at different locations within the chamber, in combination with all the limitations in the base claim.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu T. Nguyen whose telephone number is (571) 272-2424. The examiner can normally be reached on T-F 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Toatley Jr. can be reached on (571) 272-2800 Ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Tu T. Nguyen
Primary Examiner
Art Unit 2877

01/06/2007